

CLAIMS

What is claimed is:

1. A method for operating a communication system, comprising steps of:

flexibly allocating Code Division Multiple Access (CDMA) channel resources between packet-switched shared channels and circuit-switched dedicated channels in order to optimize system throughput; and

employing a side channel as required to send all or a part of a total amount of data, depending on the total amount of the data.

2. A method as in claim 1, wherein a bandwidth allocation scheme allocates a set of CDMA channels for burst packet-switched channels, and where data is time division multiplexed over the set of burst packet-switched channels providing a wide bandwidth data pipe for packet-switched data., wherein subscriber stations are equipped with multiple CDMA channel receivers tuned to the burst packet-switched channels.

3. A synchronous Code Division Multiple Access (CDMA) communication system wherein a base site (BS) communicates with subscriber stations (SSs) through a radio channel, comprising a BS channel allocation control unit for allocating radio channel bandwidth to include a set of shared forward link CDMA channels for use as burst packet-switched channels, wherein data is time division multiplexed over the burst packet-switched channels to a plurality of said SSs; further comprising multiple CDMA burst packet-switched channel receivers at individual ones of said plurality of SSs for receiving data from said burst packet-switched channels, said BS channel allocation control unit further allocating, as required, other CDMA channels for circuit-switched connections to particular ones of said SSs; and further comprising a side CDMA channel for making channel requests and for sending all or a part of a total amount of data, depending on the total amount of the data.

4. A synchronous CDMA communication system as in claim 3, wherein for a SS that has data to transmit to the BS, the SS transmits an indication to the BS that the SS has data to be transmitted, along with the data.

5. A synchronous CDMA communication system as in claim 3, wherein said BS

channel allocation control unit further allocates a set of shared reverse link CDMA channels for use as burst packet-switched channels that are used in a contention mode by a number of said SSs.

6. A synchronous CDMA communication system as in claim 3, wherein said BS channel allocation control unit further allocates a set of shared reverse link CDMA channels for use as burst packet-switched channels that are used in a slotted Aloha fashion by a number of said SSs.

7. A synchronous CDMA communication system as in claim 3, wherein said BS channel allocation control unit further allocates a set of shared reverse link CDMA channels for use as burst packet-switched channels, and wherein individual ones of said SSs further comprise multiple CDMA burst packet-switched channel transmitters that are used in a contention mode by a number of said SSs to transmit channel requests alone, channel requests along with data, or data alone to said BS.

8. A synchronous CDMA communication system as in claim 3, wherein a plurality of SSs are assigned to a same forward link data side channel, and where packet multiplexing is used to transmit data packets from the BS to individual ones of the plurality of SSs that are assigned to the same forward data side channel.

9. A synchronous CDMA communication system as in claim 3, wherein said BS channel allocation control unit allocates said radio channel bandwidth under control of a network operator.

10. A synchronous CDMA communication system as in claim 3, wherein said BS channel allocation control unit allocates said radio channel bandwidth automatically in response to demand.